Boiled Crawfish Consumption In Louisiana

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Louisiana leads the world in acreage devoted to the production of crawfish. However, other countries, specifically China, have increased crawfish production more than Louisiana. Louisiana crawfish are sold internationally, particularly in Europe and Asia. Even with increased exports, 70 percent of the state's crawfish crop is consumed instate. The major crawfish products are tail meat and boiled crawfish.

This paper examines the consumption of boiled crawfish in Louisiana based on a mail survey of households. The first section presents previous research results concerning crawfish consumption. The second section provides an overview of the data and a logit model that is used to estimate the probability of a household consuming boiled crawfish. The third section presents the results of this analysis and the fourth section contains the conclusions and implications.

Previous Research

Bebee (1987) surveyed 5,000 households in Louisiana to ascertain their crawfish consumption patterns. He found that as income increased the probability of consumption of crawfish decreased. He also found that households with a Catholic religious preference were more likely to consume crawfish than non-Catholics.

Periera (1989) examined crawfish consumption nationally. She found that consumers in the Southern region of the United States were more likely to consume crawfish than consumers in other areas and that the Pacific region was the second most likely area to consume crawfish.

Dellenbarger and Schupp (1991) found that budget constraints did not influence crawfish consumption in Louisiana. Cultural beliefs, moreover, were a factor in the consumption of crawfish.

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Data And Logit Model

During the spring of 1994, 3,000 households in four rural and four urban parishes of Louisiana were surveyed to identify their crawfish and seafood consumption patterns. The four urban parishes included Ascension, Lafayette, Ouachita and Rapides. Bienville, Caldwell, Iberville and La Salle were the four rural parishes. The names and addresses of household's were obtained from the Louisiana Department of Public Safety (vehicle registration division). A total of 858 useable observations were obtained from the initial and follow-up mailings (28.6%). The survey requested estimates of seafood consumption by species and whether the household had purchased, caught or received the seafood as a gift. The focus of this paper is on crawfish obtained and consumed by the household in boiled form.

Of the 858 useable observations, 203 households reported consuming a total of 2,913.72 pounds of boiled crawfish. Average boiled crawfish consumption per household was 14.35 pounds over the five-day survey period. The range of boiled crawfish consumption was 0.25 to 50 pounds. While the survey was taken during the harvest period for crawfish, less than one fourth of the responding households had consumed boiled crawfish in the five days preceding the survey.

Households are routinely faced with decisions to consume or to forego consumption of specific items. In this study, households were asked if they had consumed boiled crawfish. Logit analysis was used as the statistical technique. Logit analysis operates as a binary choice model. The number one was assigned to households consuming boiled crawfish and a zero to households not consuming boiled crawfish. The definition of variables used in the logit model are given in Table 1 and the descriptive statistics are presented in Table 2.

Table 1. Logit Model Variable Definitions.

Variable	Definition
Boiled	= 1 if the household consumed boiled crawfish, 0 otherwise
Income	= 1 if household income is greater than $25,000, 0 otherwise
Ind	= Number of individuals in the household
Urban	= 1 if the household is in an urban parish, 0 otherwise
White	= 1 if the household is white, 0 otherwise
Prot	= 1 if the household head is Protestant, 0 otherwise
Educ	= 1 if household has a high school education or less, 0 otherwise

Table 2. Variable Descriptive Statistics.

Variable	Mean	Std. Dev.	Min	Max
Boil	0.2272	0.4193	0	1
Income	0.6491	0.4775	0	1
Ind	2.9067	1.4694	1	10
Urban	0.5944	0.4912	0	1
White	0.8997	0.3004	0	1
Prot	0.4207	0.4939	0	1
Educ	0.3892	0.4878	0	1

Note: Observations for all variables = 858.

Households in urban areas were hypothesized to have a lower probability of consuming boiled crawfish since previous research indicates metro areas tend to prefer tailmeat. Income was hypothesized to have a negative influence on boiled crawfish since higher income individuals can buy higher priced tail meat. From Bebee's research, it was hypothesized that white households would have a higher probability of consuming boiled crawfish than other racial groups. Due to the cost of boiled crawfish, ($1.29 a pound), it was hypothesized that the number of individuals residing in the household would be negatively associated with boiled crawfish purchases. Due to the heavy Catholic influence in South Louisiana, Catholics were expected to be more likely to consume boiled crawfish than non-Catholics. Education was hypothesized to be positively associated with boiled crawfish consumption.

Results

Table 3 presents the results of the logit model. Income was a statistically significant variable in explaining the probability associated with boiled crawfish consumption. A negative sign indicates that boiled crawfish is an inferior good. The number of individuals residing in the household (a statistically significant variable) was negatively associated with boiled crawfish consumption. Urban households were negatively associated with boiled crawfish consumption, however, location was not a statistically significant variable.

The race variable was statistically significant as white households were more likely to consume boiled crawfish than non white households. The Protestant religious preference variable was statistically significant, however, its sign was contrary to the hypothesis. Education was not a statistically significant variable with respect to boiled crawfish consumption. The marginal probabilities for the variables used in the model were calculated and are presented in Table 3.

Conclusions And Implications

Crawfish consumption in Louisiana is often associated with the Cajun cultural influence. During the spring, Louisiana households have parties where boiled crawfish are served. Crawfish consumption is not confined just to Louisiana. Other states and several other countries have diversified their agricultural production practices and are producing crawfish to supplement farm incomes.

Results of this research indicate that households with incomes below $25,000 should be targeted for boiled crawfish consumption. Unfortunately, boiled crawfish consumption declines with income. Contrary to Bebee's research findings, Protestants had a higher probability of boiled crawfish consumption compared to six years ago when Catholics had a higher probability of consuming boiled crawfish. As expected, urban households have a lower probability of boiled

Table 3. Logit Model Analysis and Marginal Probabilities.

Variable	Parameter Estimate	Standard Error	Wald Chi-Square	Pr> Chi-Square	Marginal Probabilities
Intercept	1.2904	0.3422	14.2214	0.0002*	
Income	-0.3965	0.1994	3.9531	0.0468*	-0.0569
Ind	-0.1290	0.0560	5.3122	0.0212*	-0.0185
Urban	-0.2345	0.1803	1.6925	0.1933	-0.0337
White	0.4967	0.2686	3.4204	0.0644*	0.0714
Prot	0.7442	0.1828	16.5762	0.0001	0.1070
Educ	0.0440	0.1848	0.0568	0.8117	0.0063

crawfish consumption compared to rural households.

The production and consumption of boiled crawfish will continue to be of major importance to the state of Louisiana. China's entry into crawfish production has generated strong competition for the Louisiana crawfish industry. These results indicate that continued attention to consumption patterns of Louisiana consumers is required for the industry to effectively target these markets.

References

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